

CLAIM AMENDMENTS

1. (Currently amended): Seed of corn inbred line designated LH246, representative seed of said line having been deposited under ATCC Accession No. _____ No. PTA-3203.
2. (Previously presented): A corn plant, or a part thereof, produced by growing the seed of claim 1.
3. (Original): Pollen of the plant of claim 2.
4. (Original): An ovule of the plant of claim 2.
5. (Previously presented): A corn plant, or a part thereof, having all of the physiological and morphological characteristics of the corn plant of claim 2.
6. (Canceled)
7. (Previously presented): A tissue culture of regenerable cells produced from the corn plant of claim 2.
8. (Previously presented): The tissue culture according to claim 7, the cells of the tissue culture having been produced from a tissue selected from the group consisting of leaves, pollen, embryos, roots, root tips, anthers, silks, flowers, kernels, ears, cobs, husks, and stalks.
9. (Previously presented): A corn plant regenerated from the tissue culture of claim 7, wherein the regenerated plant has all the morphological and physiological characteristics of inbred line LH246.
10. (Canceled)

11. (Original): A method for producing a hybrid corn seed comprising crossing a first inbred parent corn plant with a second inbred parent corn plant and harvesting the resultant hybrid corn seed, wherein said first inbred parent corn plant or second said parent corn plant is the corn plant of claim 2.

12-18. (Canceled)

19. (Currently amended): A method for producing a LH246-derived corn plant, comprising:

- (a) crossing inbred corn line LH246, representative seed of said line having been deposited under ATCC accession number _____ Accession No. PTA-3203, with a second corn plant to yield progeny corn seed; and
- (b) growing said progeny corn seed, under plant growth conditions, to yield said LH246-derived corn plant.

20-32. (Canceled)

33. (Previously presented): A male sterile corn plant produced by transforming the corn plant of claim 2 with a transgene that confers male sterility.

34. (Currently amended): A method of introducing a desired male sterility single gene trait into corn inbred line LH246 comprising:

- (a) crossing a LH246 plant, representative seed of which has been deposited under ATCC Accession No. _____ No. PTA-3203, with a plant of another corn line that comprise a desired male sterility single gene trait to produce F1 progeny plants;
- (b) selecting F1 progeny plants that have the desired male sterility single gene trait to produce selected F1 progeny plants;
- (c) crossing the selected progeny plants with a LH246 plant to produce backcross progeny plants;

- (d) selecting for backcross progeny plants that have the desired male sterility single gene trait and physiological and morphological characteristics of corn inbred line LH246 listed in the Variety Description Information to produce selected backcross progeny plants; and
 - (e) repeating steps (c) and (d) one or more times in succession to produce selected second or higher backcross progeny plants that comprise the desired male sterility single gene trait and all of the physiological and morphological characteristics of corn inbred line LH246 listed in the Variety Description Information when grown in the same environmental conditions.
35. (Previously presented): A corn plant produced by the method of claim 34, wherein the plant has the desired male sterility single gene trait and all of the physiological and morphological characteristics of corn inbred line LH246 listed in the Variety Description Information when grown in the same environmental conditions.
36. (Previously presented): A method of producing an herbicide resistant corn plant comprising transforming the corn plant of claim 2 with a transgene that confers herbicide resistance.
37. (Previously presented): An herbicide resistant corn plant produced by the method of claim 36.
38. (Previously presented): The corn plant of claim 37, wherein the transgene confers resistance to an herbicide selected from the group consisting of imidazolinone, sulfonylurea, glyphosate, glufosinate, L-phosphinothricin, triazine and benzonitrile.
39. (Previously presented): A method of producing an insect resistant corn plant comprising transforming the corn plant of claim 2 with a transgene that confers insect resistance.
40. (Previously presented): An insect resistant corn plant produced by the method of claim 39.

41. (Previously presented): A method of producing a disease resistant corn plant comprising transforming the corn plant of claim 2 with a transgene that confers disease resistance.
42. (Previously presented): A disease resistant corn plant produced by the method of claim 41.
43. (Previously presented): A method of producing a corn plant with decreased phytate content comprising transforming the corn plant of claim 2 with a transgene encoding phytase.
44. (Previously presented): A corn plant with decreased phytate content produced by the method of claim 43.
45. (Previously presented): A method of producing a corn plant with modified fatty acid metabolism or modified carbohydrate metabolism comprising transforming the corn plant of claim 2 with a transgene encoding a protein selected from the group consisting of fructosyltransferase, levansucrase, alpha-amylase, invertase and a starch branching enzyme or a transgene encoding an antisense of a steryl-ACP desaturase gene.
46. (Previously presented): A corn plant produced by the method of claim 45, wherein said corn plant has modified fatty acid metabolism or modified carbohydrate metabolism.
47. (Previously presented): The corn plant of claim 46 wherein the transgene confers a trait selected from the group consisting of waxy starch and increased amylose starch.
48. (Currently amended): A method of introducing a desired single gene trait into corn inbred line LH246 comprising:
- (a) crossing a LH246 corn plant, representative seed of which has been deposited under ATCC Accession No. _____ No. PTA-3203, with a plant of another corn line that comprise a desired single gene trait to produce F1 progeny plants,

- wherein the desired single gene trait is selected from the group consisting of herbicide resistance, insect resistance, disease resistance and waxy starch;
- (b) selecting F1 progeny plants that have the desired single gene trait to produce selected F1 progeny plants;
 - (c) crossing the selected progeny plants with a LH246 plant to produce backcross progeny plants;
 - (d) selecting for backcross progeny plants that have the desired single gene trait and physiological and morphological characteristics of corn inbred line LH246 listed in the Variety Description Information to produce selected backcross progeny plants; and
 - (e) repeating steps (c) and (d) one or more times in succession to produce selected second or higher backcross progeny plants that comprise the desired single gene trait and all of the physiological and morphological characteristics of corn inbred line LH246 listed in the Variety Description Information when grown in the same environmental conditions.
49. (Previously presented): A corn plant produced by the method of claim 48, wherein the plant has the desired single gene trait and all of the physiological and morphological characteristics of corn inbred line LH246 listed in the Variety Description Information when grown in the same environmental conditions.
50. (Previously presented): The corn plant of claim 49 wherein the desired trait is herbicide resistance and the resistance is conferred to an herbicide selected from the group consisting of imidazolinone, sulfonylurea, glyphosate, glufosinate, L-phosphinothricin, triazine and benzonitrile.
51. (Previously presented): The corn plant of claim 49 wherein the desired trait is insect resistance and the insect resistance is conferred by a transgene encoding a *Bacillus thuringiensis* endotoxin.

52. (Previously presented): The corn plant of claim 49 wherein the desired trait is male sterility and the trait is conferred by a cytoplasmic nucleic acid molecule that confers male sterility.
53. (Previously presented): A protoplast produced from the tissue culture of claim 7.